

MODEL: TMC-060Z

CONVENTIONAL 2-WAY TALK BACK CONTROLLER



KEY FEATURES

- Real-Time Operation - Embedded architecture designed for guaranteed response and reliable performance in mission-critical applications.
- Low-Latency Half-Duplex Communication - Digital audio transmission with ultra-fast response for seamless two-way interaction.
- High-Quality Audio Processing - Integrated noise suppression and echo cancellation for clear, intelligible communication.
- Flexible Serial Connectivity - Multi-protocol support via RS-485 for robust and scalable system integration.
- Power-Efficient Design - Optimized for low-power consumption, ensuring long-term reliability in embedded environments.
- Multi-Loop Communication - Supports up to four asynchronous loops for concurrent data and audio handling.
- Emergency Alert Capability - Built-in emergency tone activation for critical warnings and safety notifications.
- Group-Based Communication - Enables selective paging and targeted messaging across defined user groups.
- System Integration Ready - Seamless compatibility with fire alarm systems and Building Management Systems (BMS).
- Wide Voltage Range Support - Designed to operate across diverse industrial power environments for maximum adaptability.

The Triobrics Conventional 2-Way Talk Back Controller serves as the central hub of advanced talkback systems, delivering efficient audio signal routing with user-defined configurations and ultra-low-latency processing. Built with robust serial communication protocols and embedded loop communication, it is engineered for mission-critical environments, ensuring reliable performance even during emergencies. Featuring four independent communication loops, the controller enables precise speaker output management, dynamic audio distribution, and seamless integration with fire alarm systems and building management systems (BMS). Its versatile design supports emergency tone activation, group-based communication, and deployment in industrial intercoms, surveillance networks, distributed control systems (DCS), and public address systems. With secure two-way communication, synchronized audio exchange, and intelligent multi-loop routing, the system ensures coordinated safety responses while maintaining compatibility with differential audio I/O, RS-485 interfaces, and zone-based audio distribution for maximum adaptability across industrial and commercial applications.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Audio Input	High-sensitivity microphone (Analog/Digital)
Audio Output	Low-distortion speaker/headphone driver with adaptive routing
Signal-to-Noise Ratio	> 90 dB
Total Harmonic Distortion + Noise (THD+N)	< 0.05%
Communication Interface	RS-485, supporting multi-protocol serial communication
Loops Supported	4 independent, asynchronous communication loops
Speaker Control	Dynamic routing with programmable priority and zone-based selection
Emergency Tone	Configurable alert tones for critical/emergency scenarios
Integration Support	Seamless RS-485 interfacing with fire alarm systems and Building Management Systems (BMS)
Operating Temperature	-20°C to +45°C